

23561

S/118/61/000/005/002/006  
D203/D306

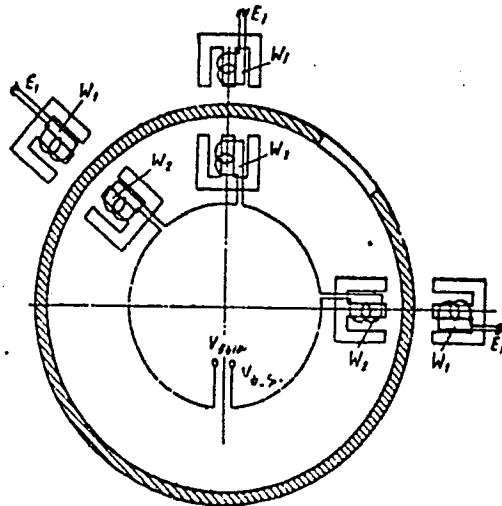
Control of technological...

the magnitude of the  $V_A$ . An inductive commutator which is described is shown diagrammatically in Fig. 4.

Fig. 4. Main diagram of inductive commutator.  $E_i$  - controlled voltage;  $V_{o.s.}$  - output signal;  $W_1$  - primary windings,  $W_2$  - secondary windings.

The primary and secondary windings of the transformers are wound on separate cores. These are separated by a rotating magnetic screen. At the moment the air gap passes through a particular pair of cores, the linkage of this pair sharply increases and from the series-connected secondary windings the voltage is

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passed to the amplifier of the vertical deflection which is proportional to the signal. The disadvantages are: a) The only possible application is with a.c. at a frequency of several kilocycles per/s.; b) The distorted shape of the signal leads to the need for smoothing; c) The signals are basically non-linear. The contactless electronic high speed commutators, based on electron<sup>ionized</sup> and magnetic elements, consist of keys controlled by the switching system. They are suitable for a great number of measured channels which could be transmitted to several CRTs. Two methods are suggested. One is the use of a linear evolvent, synchronized with the work of the commutator --e.g. an evolvent with a waiting time which is started at the switching-on of the first channel; or a non-stop waiting evolvent and the introduction of an additional channel, with a constant signal which actuates the evolvent. The second method is the discrete shifting of the ray along the x-x axis with 'ladder' generators, which are contacted to the plate of a fixed potential. This assures the shifting of the ray into the position corresponding to the measuring on the given channel. In the

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experimental apparatus the system of reading several parameter values set by the operator was adapted. The preset values were taken as zeroes, and the scale was up to 20% of the maximum possible value. The contactless commutator working on code controlled the valves successively contacting to the measured channels. The same commutator simultaneously controlled the second group of valves which were switched on the horizontal deflections of the stabilizing potentials, determining the place of each channel along the x-x axis. Prolonged experiments have shown that the maximum errors for measuring the channels of pressure and output did not exceed  $\pm 2.5\%$  and those for the temperatures did not deviate more than  $\pm 1.5\%$ . Further development of this system will depend on the improvement of the elements used. The development of mono- and multi-ray tubes with electrostatic control having a flat rectangular screen of the size of cinescopes 43 -Л K -2Б (43-LK-2B) and 53-Л K -2Б (53-LK-2B) will play an important part. In addition to the authors, the following Engineers participated in the research described above: V.M. Kuchenkov, L.M. Mayzel', I.O. Oskolkov, N.A. Trofimov. There are 5 figures and 6 Soviet-bloc references.

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APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R000825420003-

KOTOVICH, F.

New design for fastening the cap of a drip. Zhil.-kom. khoz. 13 no.3:17  
Mr '63. (MIRA 16:3)

1. Glavnyy inzh. Gosudarstvennogo respublikanskogo tresta po organizatsii gazovogo khozyaystva Glavgaza Ministerstva kommunal'nogo khozyaystva RSFSR.

(Gas, Natural—Pipelines)

KOTOVICH, F.

Turning on the gas in municipal networks. Zhil.-kom. khoz. 13  
no.4:29-30 Ap '63. (MIRA 16:5)

1. Glavnyy inzh. Gosudarstvennogo respublikanskogo tresta po  
organizatsii razovogo khozyaystva Glavgaza Ministerstva kommunal'nogo  
khozyaystva RSFSR.

(Gas distribution—Safety measures)

KOTOVICH, Fedor Vasil'yevich; SHAL'NOV, A.P., red.

[Organizing technical control in the construction of  
municipal gasworks] Organizatsiia tekhnicheskogo kontrolya  
pri stroitel'stve gorodskikh gazovykh setei. Moskva, Stroi-  
izdat, 1965. 82 p. (MIRA 18:4)

KOTOVICH, F.V., inzh.

Are leak detection tubes necessary? Stroi.turboprov. 5 no.6:  
21-22 Je '60. (MIRA 13:7)  
(Gas, Natural--Pipelines)

KOTOVICH, F.V., inzh.

Device for measuring pressure when testing gas pipes. Stroi.  
truboprov. 6 no.11:23-24 N '61. (MIRA 15:4)  
(Gas, Natural---Pipelines) (Pressure-gases)

KOTOVICH, G. M.

Growth of tea seedlings after biological acidification of the soil. L. A. Nerguzorov and G. M. Kotovich (K. A. Timiryazev Inst. Plant Physiol. Moscow). Doklady Akad. Nauk S.S.S.R. 90, 920-922 (1962). A forest-type soil whose (q. ext. had a pH of 6.8-7.0 is greatly improved in its ability to support tea plants when powder, B, along with superphosphate and  $K_2SO_4$ , is added to it. This introduction changes the soil pH to about 6.6 and is effective since tea plants are very sensitive to pH of the soil, requiring the optimum of pH 4.5-6.4. G. M. Kosolapoff

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①



KOTOVICH, L. Ye.

Lung cyst as a result of staphylococcal pneumonia. Zdrav. Bel.  
9 no.2:65-66 F'63. (MIRA 16:7)

1. Iz kafedry grudnoy khirurgii i anesteziologii (zaveduyushchiy  
prof. S.L.Libov) Belorusskogo instituta usovershenstvovaniya  
vrachey.

(PNEUMONIA) (CYSTS) (STAPHYLOCOCCAL DISEASE)

KOTOVICH, M.I.

Some results in the construction of medical institutions in Minsk Province. Zdrav. Belor. 6 no.8:53-54 Ag '60. (MIRA 13:9)

1. Zaveduyushchiy Minskim oblzdravotdelom.  
(MINSK PROVINCE--HOSPITALS--CONSTRUCTION)

KOTOVICH, M.I.

Some results in the carrying out of the decisions of the party  
and government. Zdrav. Bel. 7 no. 4:14-18 Ap '61. (MIRA 14:4)  
(MINSK PROVINCE--PUBLIC HEALTH, RURAL)

KOTOVICH, O.

Conference on the durability and reliability of agricultural  
machines. Trakt. i sel'khoz mash. no. 6248    Ia'64  
(MIRA 17:7)

KOTOVICH, O.M.

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AUTHOR: Kapitskiy, R.A., Engineer SOV-117-58-8-26/28

TITLE: All-Union Conference on Problems of Designing and Producing Agricultural Machines (Vsesoyuznaya konferentsiya po voprosam konstruirovaniya i proizvodstva sel'skokhozyaystvennykh mashin)

PERIODICAL: Mashinostroitel', 1958, Nr. 8, p 46 (USSR)

ABSTRACT: The All-Union Scientific Technical Conference on problems of of designing and producing agricultural machines was convened in Rostov-on-Don in January 1958. The plenary session heard the report of Candidate of Technical Sciences A.Z. Zhuravlev, on the results of the execution of the resolutions made by the conference in 1953. Candidate of Technical Sciences Ya.M. Zhuk, VIM, read a paper on "The Results of the Study of the Two-Phase Method of Combine Harvesting in the USSR and of the Requirements of the System of Machines Needed for this Method". Candidate of Technical Sciences I.I. Trepenenkov, NATI, read on "The Methods for the Development of the Designing of Agricultural Tractors"; Doctor of Technical Sciences M.A. Pustygin, VISKhOM, on "The Principal Problems of the Development of Cereal Harvesting Combines"; Engineer V.D. Lavrent'yev on "Specialization and Cooperation in the Production of Agricultural Machines"; Engineer O.M. Kotovich, VISKhOM, on

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SOV-117-58-8-26/28

All-Union Conference on Problems of Designing and Producing Agricultural Machines

"Rational Profiles and Reduction of Assortment of Rolled Metal in Agricultural Machinebuilding"; Engineer G.M. Fedorishchenko on "Results of the Work of VNIIMESKh in the Field of the Electric Drive of Mobile Agricultural Machines"; Engineer P.V. Savich from the Institute of Machine Science of the UkrSSR Academy of Sciences on "The Determination of the Density of Soils by Means of Radioactive Isotopes"; Candidate of Technical Sciences S.A. Alferov, VISKhOM, on "The Design of Foreign Cereal Harvesting Combines"; Engineer A.I. Malitskiy on "New Designs of Corn-Harvesting Combines"; Candidate of Technical Sciences Ye.S. Bosoy on "Field Tests of Cutting Apparatus for an Ensilage Harvesting Combine"; the professor of the Khar'kov Polytechnical Institute A.I. Petrusov on "Methods for the Further Investigation of the Square-Pit Sowing Machine"; the lecturer of the Rostov Institute of Railroad Transport Engineers A.I. Zelenov on "A New Method for Cold Electric Welding for the Restitution of Rejected Details of Agricultural Machines"; the lecturer of the Novocherkassk Polytechnical Institute Ye.L. Lokshin on "Processing of Metals by Hydraulic

Card 2/3

SOV-117-58-8-26/28

All-Union Conference on Problems of Designing and Producing Agricultural Machines

Blows of Ultrasound Frequency"; and the engineer of the Rostov Scientific Research Technological Institute D.M. Nabrodov on "New Methods of Casting in Agricultural Machine-Building". The conference recommended close cooperation between the designing bureaus, the scientific research organizations and the chairs of the various institutes for the development of new agricultural machines taking into consideration zonal differences. Special attention should be paid to the automation of the control of the various mechanisms.

1. Agricultural machines - Design
2. Agricultural machines - Production
3. Conferences - Agricultural machines - Rostov-on-Don

Card 3/3

KOTOVICH, O.Ye., kand. tekhn. nauk; TROFIMOV, G.S., kand. tekhn. nauk; MATVEYEV, A.P., inzh.

Calculating frame rods of agricultural machinery for torsion. Trakt. i sel'khoz mash. no.6:31-34 Je '65. (MIRA 18:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sel'skokhozyaystvennogo mashinostroyeniya (for Kotovich). 2. Bashsel'khozinstitut (for Trofimov). 3. Kuybyshevskiy sel'skokhozyaystvennyy institut (for Matveyev).



KOTOVICH, O.Ye.

Regulating pea threshing machines and means of further lowering  
crushing of the peas. Kon. i ov. prom. 13 no.10:35-37 0 '58.  
(MIRA 11:10)

1.Vsesoyuznyy nauchno-issledovatel'skiy institut sel'skokhozyaystvenno-  
go mashinostroyeniya.

(Peas) (Threshing machines)

KOTOVICH, O.Ye.

Problems concerning the theory of cylinders in pea-threshing machines. Trakt. 1 sel'khoz mash. no.5:31-35 My '59.

(MIRA 12:6)

1.Vsesoyuznyy nauchno-issledovatel'skiy institut sel'skokhozyaystvennogo mashinostroyeniya.

(Peas--Harvesting) (Threshing machines)

KOTOVICH, O.Ye.

State and possibilities of introducing bent profiles in the manufacture of agricultural machinery. Trakt. i sel'khoz mash. 33 no.2:39-41 F '63.  
(MIRA 16:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sel'skokhozyaystvennogo mashinostroyeniya.  
(Agricultural machinery industry)



KOTOVICH, Y.A.

"Problem of the Isomorphism and Forced Crystallization of Compounds with the Structure of Zinc Blende and Wurzite." Cand Geol-Min Sci, Leningrad Order of Lenin State U imeni A. A. Zhdanov, Leningrad 1954. (KL, No: 1, Jan 55)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (12)  
SO: Sum. No. 556, 24 Jun 55



Gotdich, V.A.

X-ray investigation of the isomorphism of tellurium and zinc compounds. N. A. Goryunova, V. A. Kotovskiy, and V. A. Frank-Kamenetskii (A. A. Zhdanov Leningrad State Univ.). Doklady Akad. Nauk S.S.S.R. 103, 659-62 (1965).

The sphalerite structure type is also observed in  $ZnSe$  and  $ZnTe$ ; in the structure of  $Ga_2Se_3$  and  $Ga_2Te_3$  the metallic positions of the sphalerite type are only  $1/2$  occupied. The series  $GaX_2-ZnX$  ( $X = Se$  or  $Te$ ) are plotted in the ternary system  $Ga-Zn-X$ , and mixtures were fused in systematically varied ratios of the constituents, in evacuated silica-glass containers. The x-ray data of the alloys are given for the pure compounds and a selected stoichiometric ratios. The series  $Ga_2Se_3$  (with the parameter  $a_0 = 5.430 \pm 0.005$  kX),  $ZnSe$  ( $a_0 = 5.663 \pm 0.001$  kX) is continuous, but the parameters are not strictly linear functions of the chem. compd. The series  $Ga_2Te_3$  ( $a_0 = 5.887 \pm 0.003$  kX) -  $ZnTe$  ( $a_0 = 6.087 \pm 0.003$  kX); however, shows a miscibility gap between  $Ga_2Te_3$ - $3ZnTe$  ( $a_0 = 6.012 \pm 0.003$  kX) and near  $ZnTe$  ( $a_0 = 6.075 \pm 0.003$  kX). The bonding mechanism may be more ionic in the series of the selenides and more covalent in the tellurides. Goldschmidt has assumed that the specific enrichment of Ga in sphalerite (up to 0.22%) is based on the isomorphism of  $ZnS$  and  $GaAs$ ; the authors are of the opinion that the well-substantiated occurrence of Ga in sphalerite is based on the isomorphism of  $ZnS$  and  $Ga_2S_3$ .

W. Bittel

(2)

TATARSKIY, V.B.; FRANK-KAMENETSKIY, V.A.; BURAKOVA, T.N.; NARDOV, V.V.;  
PETROV, T.G.; KONDRAT'YEVA, V.V.; KAMENTSEV, I.Ye.; CHERNYSHEVA,  
V.F.; ALEKSEYEVA, N.P.; ARTSYBASHEVA, T.P.; BARANOVSKAYA, N.I.;  
BUSSEN, I.V.; VEREMETSKO, I.A.; ONEVUSHEV, M.A.; GOYKO, Ye.A.;  
KOMKOV, A.I.; KOTOVICH, V.A.; LITVINSKAYA, G.P.; MIKHBYEVA, I.V.;  
MOKIYEVSKIY, V.A.; PETROVA, L.V.; POPOV, G.M.; SAFRONOVA, G.P.;  
SOBOLEVA, V.V.; STULOV, N.N.; TUGARINOVA, V.G.; SHAFRANOVSKIY, I.I.;  
SHTERNBERG, A.A.; YANULOV, K.P.

O.M. Ansheles; obituary. Vest. LGU 12 no.18:152-154 '57. (MIRA 11:3)  
(Ansheles, Osip Markovich, 1885-1957)



KOTOVICH, V.A.; FRANK-KAMENETSKIY, V.A.

Standard roentgenograms of some selenides, tellurides, arsenides,  
and sulfides of Cu, Ag, Zn, Cd, Ga, and In. Uch.zap.LGU no.215:  
135-156 '57. (MIRA 12:5)

(X-ray crystallography)

L 46165-65 EPA/EMP(f)/EPP(n)-2/EPR/1-2/EPA(bb)-2 Pa-1/Paa-1 WM

ACCESSION NR: AR5006342

S/0285/65/000/001/0020/0020

SOURCE: Ref. zh. Turbostroyeniye. Otdel'nyy vypush, Abs. 1.49.86

AUTHOR: Svetlakov, Ch. I.; Kotovich, V. D.

TITLE: Selection of basic parameters and experimental investigation of a low-power gas turbine engine

CITED SOURCE: In. Tsentr. n. i. avtomob. i avtomotorn. in-te, vyp. 68, 1964, 47-64

TOPIC TAGS: gas turbine engine, automotive industry, engine testing

TRANSLATION: The article presents results of planning and experimental research work done on a low-power gas turbine engine at the Ul'yanovsk Low-Displacement Engine Plant. Satisfactory power and efficiency were obtained without high finish of the gas-flow portion of the engine.

SUB CODE: PR

ENCL: 00

Card 1/1

KOTOVICH, V. G.

Dissertation defended for the degree of Candidate of Historical Science in  
the Institute of Archeology

"Stone Age of Dagestan."

Vestnik Akad. Nauk, No. 4, pp 119-145

KOTOVICH, V.V.

Magnetic chuck on permanent magnets. Med.prom. 16 no.7:47-49 J1 '62.  
(MIRA 15:9)

1. Medikoinstrumental'nyy zavod "Krasnogvardeyets".  
(MEDICAL INSTRUMENTS AND APPARATUS)

KOTOVICH, V.V.; KOLOTOV, M.G.

A nontracing method for duplication of technical documents. Med.  
prom. 16 no.5:53 My '62. (MIRA 15:9)

1. Mediko-instrumental'nyy zavod "Krasnogvardeyets".  
(COPYING PROCESSES)

KOTOVICH, Ye.

More on work schedule and routing charts for portable motion-picture equipment used in rural areas. Kinomekhanik no.7:12-14 J1 '53.

(MLBA 6:8)

(Moving-picture distribution)

VARFOLOMEYEV, F.G.; GEL'FENBOYM, M.Sh.; KOTOVICH, Yu.V.;  
OSTANOVSKIY, T.S.; SEMENETS, V.M.; SHIROKOVA, Ye.A.;  
EYGINSON, Ye.N.; VVEDENSKIY, S.F., red.; SINEL'NIKOVA,  
TS.B., red.; TSESARKIN, L.D., red.

[Study of goods serving cultural needs] Tovarovedenie  
kul'ttvarov. [By] F.G.Varfolomeev i dr. Moskva, Izd-vo  
Ekonomika, 1964. 471 p. (MIRA 17:5)

KOTOVICHYUTE, E.

M

Country : USSR

Category : CULTIVATED PLANTS. Fodder.

Abs. Jour. : REF ZHUR-BIOL.,21,1958,NO-96020

Author : Dagis, J.; Kotovichyute, E.; Vonsavichene, V.

Institut. : Lithuanian Sci. Res. Inst. of Agriculture

Title : The Effect of Macronutrients and Micronutrients on the Yield and Quality of Forage Grass

Orig. Pub. : Tr. Lit. n.-i. In-ta zemled., 1957, 3, 206-254

Abstract : For three years at Traku Voke (in Lithuanian SSR) experiments have been conducted on the effect of NPK and micronutrients on turf-podzolic (TP) and peat soils. Mixtures of red clover and timothy were sown on TP with both a limed (L) and unlimed (U) background. Hybrid clover, timothy, dewgrass, meadow fescue and Kentucky bluegrass were planted on the peat. NPK boosted the clover and timothy hay yields by 8% on U and by 41% on L. Nitragin exerted a beneficial effect on the clover hay

Card: 1/4

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Country :

Category : CULTIVATED PLANTS. FODDER

Abs. Jour. : REF ZHUR-BIOL.,21,1958,NO-96020

Author :

Institut. :

Title :

Orig. Pub. :

Abstract : harvest solely during the first year, while azotobacter weakly affected the timothy hay output. The best timothy seed yield was gotten in the variant with boron (92-130% higher than the control), the lowest was with Mo (81-83%); a mixture of these nutrients worked weaker than were they were applied separately. On the peat soil NPK showed a still greater effect on the hay output (by 27% on L and 67% on the U). Cu and Co produced a positive influence on the hay yield only on L, whereas Cu acted very much better. A Cu and Co mixture caused a slight effect on the hay output. The N

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KOTOWICZ, A.

"More fruit bushes."

p. 14

"Leading agriculture, leading farmers; springtime work in the Dobrieslawiec  
Agricultural Cooperative

p. 15

"First sowing in an agricultural cooperative."

p. 16

(Plon, Vol 4 No 4 Apr 53 Warszawa)

SO: Monthly List of East European Accessions, Vol 2 No 9 Library of Congress Sept 53 Uncl

KOTCHOV, S.P.; PETROV, G.I.; TIKHONOVA, G.P., red.; ZHUKOVA,  
Ye.G., tekhn. red.

[Agricultural collective and state farm administrations]  
Proizvodstvennye kolkhosno-sovkhoznye upravleniia. Lenin-  
grad, Izd-vo Leningr. univ., 1963. 43 p. (MIRA 16:10)  
(Agricultural administration)

*KOTOVRASOV, I.P.*

BUSHINSKIY, V.P., akademik; GROMYKO, I.D., kand. nauk; KOTOVRASOV, I.P.,  
kand. nauk; KULAKOV, Ye.V., kand. nauk; MERSHIN, A.P., kand. nauk;  
PANOV, N.P., kand. nauk.

Proper utilisation of waste and virgin lands in Kazakhstan. Dokl.  
TSKhA no.28:5-14 '57. (MIRA 11:4)  
(Kazakhstan--Reclamation of land)

KOTOVRASOV, I. P.

GROMYKO, I.D., kand. nauk; KOTOVRASOV, I.P., kand. nauk; KULAKOV, Ye.V.,  
kand. nauk; MERESHIN, A.P., kand. nauk; PANOV, N.P., kand. nauk.

Crop rotations and the cultivation of virgin lands in northern  
provinces of Kazakhstan. Dokl. TSKhA no.28:43-51 '57. (MIRA 11:4)  
(Kazakhstan--Agriculture)

KOTOV RASOV, I.P.

BITKER, M.A.; KOTOVRASOV, I.P., kand. nauk; ZENIN, A.A., aspirant.

Prospective development of the "Ak-su" State Farm. Dokl. TShA  
no.28:52-57 '57. (MIRA 11:4)

1. Direktor sovkhosa "Ak-su" Terektinskogo rayona Zapadno-  
Kazakhstanskoy oblasti (for Bitker).  
(West Kazakhstan Province---State farms)

COUNTRY : USSR  
C. No. : Cultivated Plants. Soviet Union  
ABS. JOUR.: Ref Zhur-Biologiya, No. 5, 1959, No. 20181  
AUTHOR : Gromyko, I.D.; Kotovrasov, I.P.; Kulakov, Ye.Y.\*  
INST. : Moscow Agric. Acad. im. K.A. Timiryazov  
TITLE : Crop Rotation and the Cultivation of Virgin  
Land in the Northern Oblasts of  
Kazakhstan.  
ORIG. PUB.: Dokl. Mosk. s.-kh. akad. im. K.A. Timiryazova,  
1957, vyp. 28, 54-61  
ABSTRACT : In the newly reclaimed drought regions of Kaz-  
akhstan it is necessary to introduce clean  
fallow fields into the crop rotations. These  
should be no less than 15-20% 3-4 fields of  
grain crops, one plowed field, and one pure  
fallow. When highly developed agrotechnic is  
used in the forest and forest-steppe districts  
of Kazakhstan, a patch of perennial grasses is  
very significant in crop rotations providing  
hay yields totaling 7-10 centners per hectare  
\* Merzhin, A.P.; Panov, N.P.  
1/3  
CARD:

CHIZHEVSKIY, M.G., prof., doktor sel'skokhozyzystvennykh nauk.

KOTOVRASOV, I.P., kand. sel'skokhozyzystvennykh nauk.

Utilization of the illuvial horizon of turf-Podzolic soils in  
connection with deepening of the plow layer [with summary in English].  
Izv. TSEhA no.5:83-102 '58. (MIRA 11:11)  
(Podzol) (Flowing)

KOTOVSHCHIKOV, A. A.

USSR/Metals - Cast Iron, Casting

Apr 52

"Casting the Shafts of Steam Engines Out of Cast Iron Blown With Oxygen," A. A. Kotovshchikov, "Leninskaya Kuznitsa" Plant

"Litey Proizvod" No 4, p 30

Briefly describes use of low-carbon cast iron obtained in converter instead of steel for casting shafts of river-steamship 400-hp engines.

213T102



KOTOVSHCHIKOV, A.A., inzhener.

Pneumatic molding machine with the "Takron" membrane system.  
Lit.proizv. no.10:13-14 0 '56. (MLBA 9:11)  
(Die casting)

AUTHOR: Kotovshchikov, A.A. SOV-128-58-9-15/16

TITLE: Substitutes for Ethylsilicate (Zameniteli etilsilikata)

PERIODICAL: Liteynoye proizvodstvo, 1958, Nr 9, p 32 (USSR)

ABSTRACT: The Council of Ministers of the USSR convened a conference on the development of the production of binding materials for precision casting. In 1957, 8,000 tons of precision castings were produced. In 1965, such production is to reach 80,000 tons. The quality of the binding materials is being improved. Ethylsilicate condensate, with a silicic acid content of 38 - 42% instead of the usual content of 30 - 34%, has been developed. Liquid glass is recommended for the last layers of coatings on casting molds. Acetone silicate ARK-1 may be used in place of ethylsilicate, but it is not so resistant. The production of ARK-1 should be centralized in the various economic regions.

1. Molding materials
2. Ceramic coatings--Development
3. Castings--Production
4. Ethylsilicate--Properties

Card 1/1

18(5,7)

AUTHOR:

Kotovshchikov, A.A.,  
Engineer

SOV/128-59- 5-23/35

TITLE:

New Materials Serving as Models in Studying Metal  
and Alloy Crystallization Processes

PERIODICAL:

Liteynoye Proizvodstvo, 1959, Nr 5, pp 38 -39 (USSR)

ABSTRACT:

So called "transparent " metals are suitable for serving as models in studying the crystallization process of metals. These "transparent " metals are halogen salts as listed in Tab. (1). When cooling down these salts rapidly polyhedrons form which are similar to metals. Their size grain is 0,005 mm and as shown in Fig. (1), they are plastic under normal conditions. Figs. (2) and (3) show diagrams of the expansion of polycrystals of deutochloride of silver and for comparison purposes of metallic copper, both under normal conditions. They have the same properties; however, deutochloride of silver is ten times heavier than copper. These transparent crystals, obtained by rapid cooling, permit by investigations with polarized light

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SOV/128-59-5-23/35

New Materials Serving as Models in Studying Metal and Alloy  
Crystallization Processes

determination of tensions caused by temperature or mechanical affects. By the interference figures thus obtained, tensions can be determined which are also in metals but cannot be traced there. There are 2 photographs, 2 graphs and 5 references, 1 of which is English and 4 Soviet.

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ACC NR: AP7001518

(N)

SOURCE CODE: UR/0229/66/000/011/0039/0044

AUTHOR: Tokarev, L. N.; Kotovshchikov, A. Ya.; Luzhkov, M. A.

ORG: None

TITLE: On the possibility of using current-limiting reactors for increasing the power of marine electric plants

SOURCE: Sudostroyeniye, no. 11, 1966, 39-44

TOPIC TAGS: electric generator, marine engineering, electric power plant

ABSTRACT: The authors consider the problems involved in limiting the short-circuit current of marine electric power systems by using reactors connected between the sections of the generator distribution panels and discuss the stability of parallel operation of generator units separated by reactors. The problem of maintaining steady voltage while transmitting power through the reactors was investigated in full-scale tests of a power plant consisting of two MS-82--4 synchronous machines with a P92DC drive, and mathematical simulation of parallel operation of two and three TMV-2--2 turbogenerators. It was found that the power of parallel operating generators in marine AC power plants may be increased by at least 10-15 mw with presently available commutation equipment by using current-limiting reactors permanently connected in the power circuits. The use of reactors increases the reliability of power delivery dur-

Card 1/2

UDC: 629.12-83

ACC NR: ~~APPROVED~~ FOR RELEASE: 08/23/2000

CIA-RDP86-00513R000825420003-

ing short circuits and also makes it possible to maintain voltage close to the rated value in the distribution panel sections separated from the short-circuit point by the reactors. Reactors in the power plant circuit cause no problems in voltage and frequency control and do not disrupt the operation of systems for distributing the active load. The use of circuits with reactors is especially recommended in electric power plants with compensation of  $\cos\phi$  in the generator load. These reactors are also applicable to electric installations of medium and low power. Orig. art. has: 7 figures.

SUB CODE: 09, 10, 13/ SUBM DATE: None/ ORIG REF: 001

Card 2/2

*KOTOVSHCHIKOVA, M.A.*

YANAG, O.Ya.; GILLER, S.A.; GMYTA, L.S.; BLEKSMIT, Z.D.; KOVALENKO, V.N.;  
KOTOVSHCHIKOVA, M.A.

Study of anticoagulants of the group of indandione derivatives.  
Farm. i toks. 19 no.6:23-27 H-D '56. (MLRA 10:2)

1. Leningradskiy institut perelivaniya krovi i Instituta khimii  
Akademii nauk Latvyskoy SSSR

(KETONES, effects,

indandione deriv., anticoagulant action (Rus))

(ANTICOAGULANTS,

indandione deriv. (Rus))

*M. A.*

KOTOVSECHIKOVA, A.M.; BLEKSMIT, Z.D.

Method of determination of clot retraction. Probl.gemat. 1 perel.  
krovi 2 no.3:53-55 My-Je '57. (MIRA 10:8)

1. Iz Leningradskogo ordena Trudovogo Krasnogo Znameni instituta  
perelivaniya krovi (dir. - dotsent A.D.Belyakov; nauchnyy ruko-  
voditel' - chlen-korrespondent AMN SSSR prof. A.H.Filatov)  
(BLOOD COAGULATION,  
clot retraction, determ. (Rus))

KOTOVSECHIKOVA, M.A.

BLEKSMIT, Z.D.; KOTOVSECHIKOVA, M.A.

Method of producing an experimental venous thrombus. Biul. eksp. biol.  
i med. 43 no.1 supplement:67 '57. (MLRA 10:3)

1. Iz laboratorii sukhikh preparatov Leningradskogo instituta  
perelivaniya krovi (rukovoditel' - professor L.G. Bogomolova).  
Predstavlena deystvitel'nyy chlenom AMN SSSR V.N. Shamovym.  
(THROMBOSIS)



KOTOVSHCHIKOVA, M.A., kand.biol.nauk

Hemorrhagic diathesis and changes in the coagulability and viscosity of the blood in radiation sickness. Akt.vop.perel.krovi no.6:29-41 '58.  
(MIRA 13:1)

1. Radiobiologicheskaya laboratoriya Leningradskogo instituta perelivaniya krovi (zav. laboratoriyey - starshiy nauchnyy sotrudnik G.M. Murav'yev).

(RADIATION SICKNESS) (BLOOD)

KOVALENKO, V.N., starshiy nauchnyy sotrudnik; KOTOVSHCHIKOVA, M.A., kand.biol.  
nauk

Anticoagulants and their use in medical practice. Akt.vop.pere1.  
krovi no.6:194-208 '58. (MIRA 13:1)  
(ANTICOAGULANTS (MEDICINE))

KOTOVSHCHIKOVA, M.A., kand.biol.nauk; BLEKSMIT, Z.D., nauchnyy sotrudnik

Difenacin is a new anticoagulant. Akt.vop.perel.krovi no.6:208-216  
'58. (MIRA 13:1)

1. Laboratoriya sukhikh preparatov krovi i krovozameniteley (zav.  
laboratoriyey - prof. L.B. Bogomolova) i radiobiologicheskaya labora-  
toriyey - starshiy nauchnyy sotrudnik G.M. Murav'yev) Leningrad-  
skogo instituta perelivaniya krovi.

(INDANDIONE)

(ANTICOAGULANTS (MEDICINE))

TEODOROVICH, V.P., starshiy nauchnyy sotrudnik; KOTOVSECHIKOVA, M.A., kand.  
biol.nauk; BLEKSMIT, Z.D., nauchnyy sotrudnik

Influence of anticoagulants on experimental thromboses. Akt.vop.  
perel.krovi no.6:216-218 '58. (MIRA 13:1)

1. Patologo-anatomicheskoye otdeleniye i laboratoriya sukhikh prepa-  
ratov Leningradskogo instituta perelivaniya krovi.  
(ANTICOAGULANTS (MEDICINE)) (THROMBOSIS)

BLEKSMIT, Z.D., kand.med.nauk., KOTOVSHCHIKOVA, M.A., kand.biol.nauk,  
MARTYNOVA, N.V., kand.med.nauk

Experimental and clinical study of a new anticoagulant, phenylindandione  
[with summary in English]. Vest.khir. 81 no.8:64-68 Ag '58 (MIRA 11:9)

1. Iz laboratorii sukhikh preparatov (zav. - prof. L.G.Bogomoleva)  
Leningradskogo instituta perelivaniya krovi i kliniki obshchey khirurgii  
(zav. - prof. I.M. Tal'man) Leningradskogo sanitarno-gigiyenicheskogo  
instituta. Adres: avtorov: Leningrad, 2-ya Sovetskaya ul., d. 16,  
Institut perelivaniya krovi.

(THROMBOEMBOLISM,

prev. & ther. with phenindione (Rus))

(PHENINDIONE, ther. use

prev. & ther. of thromboembolism (Rus))

FEDOROVA, Z.D., kand.med.nauk; KOTOVSHCHIKOVA, M.A., kand.biolog.nauk;  
PETROV, N.V., zaslužennyy vrach Estonskoy SSR

Some observations on the use of BK-8. Akt.vop.perel.krovi no.7:  
352-357 '59. (MIRA 13:1)

1. Laboratoriya sukhikh preparatov krovi i krovozameniteley (zav. -  
prof. L.G. Bogomolova) Leningradskogo instituta perelivaniya krovi  
i klinika obshchey khirurgii I Leningradskogo meditsinskogo instituta  
im. akad. I.P. Pavlova (zav. klinikoy - chlen-korrespondent AMN SSSR  
prof. A.N. Filatov).

(BLOOD PLASMA SUBSTITUTES)

KAPETANAKI, K.G., kand.med.nauk; KOTOVSHCHIKOVA, M.A., kand.biolog.nauk

Significance of proconvertin (factor 7) in Botkin's disease and in other forms of jaundice. Sov.med. 23 no.9:51-56 S '59.

(MIRA 13:1)

1. Iz kafedry 'infektsionnykh bolezney Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta (zav. - prof. V.V. Kosmachevskiy) i radiobiologicheskoy laboratorii (zav. G.M. Murav'yev) Leningradskogo instituta perelivaniya krovi (dir. - dotsent A.D. Belyakov, nauchnyy rukovoditel' chlen-korrespondent AMN SSSR prov. A.N. Filatov).

(HEPATITIS, INFECTIONS blood)

(JAUNDICE blood)

(BLOOD COAGULATION)

KOTOVSHCHIKOVA, M.A.; FEDOROVA, Z.D.

Some data on the change of blood coagulation factors in leukemias.  
Probl. gemat. i perel. krovi 5 no.3:29-32 Mr '60. (MIRA 14:5)

1. Iz laboratorii sukhikh preparatov krovi (zav. - prof. L.G. Bogomolova) i radiobiologicheskoy laboratorii (zav. G.M.Murav'yev) Leningradskogo ordena Trudovogo Krasnogo Znameni instituta perelivaniya krovi (dir - dotsent A.D.Belyakov, nauchnyy rukovoditel' - chlen-korrespondent AMN SSSR prof. A.N.Filatov).  
(LEUKEMIA) (BLOOD—COAGULATION)



KOTOVSHCHIKOVA, M.A.; FEDOROVA, Z.D.

Simple method for determining the consumption of prothrombin.  
Lab. delo 7 no.1:18-20 Ja '61. (MIRA 14:1)

1. Leningradskiy institut peralivaniya krovi (dir. - dotsent A.D.  
Belyakov).  
(PROTHROMBIN) (BLOOD---COAGULATION)

IZMAYLOVA, Ye.F.; KOTOVSHCHIKOVA, M.A.

Method for studying some functions of the thrombocytes. Lab. delo  
8 no.4:13-17 Ap '62. (MIRA 15:5)

1. Laboratoriya krovezameniteley i preparatov krovi (zav. - prof.  
L.G.Bogomolova) i khirurgicheskaya klinika Leningradskogo instituta  
perelivaniya krovi (dir. - dotsent A.D. Belyakov).  
(BLOOD PLATELETS)

KOTOVSHCHIKOVA, M.A.; KUZNIK, B.I.

Simple method for the determination of the natural lysis and retraction of a blood clot. Lab.delo 8 no.5:6-9 My '62.

(MIRA 15:12)

1. Leningradskiy institut perelivaniya krovi (dir. - dotsent A.D.Belyakov) i kafedra normal'noy fiziologii (zav. I.D.Boyenko) Chitinskogo meditsinskogo instituta.

(BLOOD---COAGULATION)

FILATOV, Antonin Nikolayevich; KOTOVSHCHIKOVA, Marianna Aleksandrovna;  
KULESHOV, Yu.Ya., red.; KHARASH, G.A., tekhn. red.

[Coagulative system of the blood in clinical practice] Sver-  
tyvayushchaia sistema krovi v klinicheskoi praktike. Lenin-  
grad, Medgiz, 1963. 159 p. (MIRA 16:9)  
(BLOOD--COAGULATION)

IZMAYLOVA, Ye.F.; KOTOVSHCHIKOVA, M.A.

Disorders of the first phase of blood coagulation in hemophilia. Probl. gemat. i perel. krovi 8 no.6:14-18 Je'63  
(MIRA 17:4)

1. Iz laboratorii krovezameniteley i preparatov krovi (zav. prof. L.G. Bogomolova) i khirurgicheskoy kliniki Leningradskogo instituta perelivaniya krovi ( dir. - dotsent A.D. Belyakov; nauchnyy rukovoditel' - chlen-korrespondent AMN SSSR prof. A.N. Filatov).

KOTOVSHCHIKOVA, M.A.; MEDVEDEV, P.M.

Study of the blood coagulation system in stable forms of  
lymph circulation disorders of the extremities. Sov. med.  
27 no.12:63-68 D'63 (MIRA 17:4)

1. Iz khirurgicheskoy kliniki (rukovoditel' - chlen-korres-  
pondent AMN SSSR prof. A.N. Filatov) Leningradskogo nauchno  
issledovatel'skogo instituta perelivaniya krovi (dir. - dots-  
ent A.D. Belyakow).

KUZNIK, B.I.; KOTOVSHCHIKOVA, M.A.

Objective evaluation of a true retraction of a blood clot.

Lab. delo no.9:524-526 '64.

(MIRA 17:12)

1. Kafedra normal'noy fiziologii (zaveduyushchiy - dotsent B.I. Kuznik) Chitinskogo meditsinskogo instituta i khirurgicheskaya klinika Leningradskogo instituta perelivaniya krovi (direktor - dotsent A.D. Belyakov, nauchnyy rukovoditel' - chlen-korrespondent AMN SSSR prof. A.N. Filatov).

MATVIYENKO, L.A.; KOTOVSHCHIKOVA, M.A.

Activity of some thrombocyte factors in healthy persons.  
Lab. delo no.10:607-610 '64. (MIRA 17:12)

1. TSitologicheskaya laboratoriya po izucheniyu leykozov  
(rukovoditel' - prof. V.V. Akkerman) i laboratoriya po izucheniyu  
svertyvaniyu krovi (rukovoditel' - chlen-korrespondent AMN SSSR  
prof. A.I. Filatov) Leningradskogo instituta perelivaniya krovi  
(direktor - dotsent A.D. Belyakov).



KOTOVSHCHIKOVA, M.A.; NIKOLAYEVA, L.K.; IVANOVA, N.M.; RAFAL'SON, D.I.;  
VEYKHER, Z.F.; ROZANOVA, L.M.

Effect of taking small and moderate doses of bone marrow on the  
body of the donor. Report No.2: Effect of taking bone marrow on  
some factors of the blood coagulation system and natural immunity.  
Probl. gemat. i perel. krovi no.10:35-40 '63 (MIRA 18:1)

1. Iz Leningradskogo nauchno-issledovatel'skogo ordena Trudovogo  
Krasnogo Znameni instituta perelivaniya krovi (dir.- dotsent  
A.D. Belyakov, nauchnyy rukovoditel' - chlen-korrespondent AMN  
SSSR prof. A.N. Filatov).

L 25972-66 FSS-2/ENT(1)/SEC(k)-2/ENA(d) SCTB TT/DD/CW

ACC NR: AP6015410

SOURCE CODE: UR/0216/66/000/003/0337/0345

AUTHOR: Kotovskaya, A. R.; Yeshanov, N. Kh.; Vartbaronov, R. A.; Simpura, S. F. 51/3

ORG: none

TITLE: Physiological reactions of cosmonauts under the influence of acceleration during the Voskhod-1 flight 2

SOURCE: AN SSSR. Izvestiya. Seriya biologicheskaya, no. 3, 1966, 337-345

TOPIC TAGS: space flight, physiological change, cardiovascular system, electrocardiogram, weightlessness effect, acceleration effect

ABSTRACT: Physiological data from the Voskhod-1 flight were compared with preflight centrifuge data for all three cosmonauts. Comparison of laboratory pulse rates with pulse rates recorded during the prelaunch period showed higher prelaunch values for cosmonauts Komarov and Yegorov, but a lower value for Feoktistov. After launch, pulse and respiration rates continued to climb, reaching maximum values in the first 20-30 sec of flight, though acceleration forces at this point were small. During centrifuge tests the height of the T spike of electrocardiograms decreased with increased acceleration; however, the T spike decreased independent of changes in the magnitude of acceleration for all cosmonauts during spaceflight. Furthermore, recovery of the original T spike value during insertion into orbit occurred later than in centrifuge tests. This is apparently caused by a slower recovery process by

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UDC: 612.2:612.3:629.195

KOTOVSKAYA, A.R. (Moskva)

Change in the higher nervous activity of dogs subjected to two-minute clinical death. Pat.fiziol. i eksp.terap. 2 no.4:20-25  
Jl-Ag '58 (MIRA 11:12)

1. Iz laboratorii eksperimental'noy fiziologii po oshivleniyu organizma AMN SSSR, (zav. - prof. V.A. Negovskiy) i kafedry normal'noy fiziologii I Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M. Sechenova (zav. - prof. M.A. Usiyevich).

(DEATH,

two-minute clin. death, changes in higher nerv.  
activity in dogs (Rus))

(CENTRAL NERVOUS SYSTEM, physiol.

higher nerv. activity changes in two-minute clin.  
death in dogs (Rus))

KOTOVSKAYA, A. R., Candidate Med Sci (diss) -- "Changes in the higher nervous activity of dogs after recuperation". Moscow, 1959. 12 pp (Acad Sci USSR, Inst of Higher Nervous Activity), 200 copies (KL, No 22, 1959, 121)

83892

172250

3512  
3712  
3212

S/177/60/000/004/003/003  
B004/B064

AUTHORS: Kotovskaya, A. R., Yuganov, Ye. M., Lieutenant-colonel,  
Surgeon

TITLE: The Effect of Long-period Transverse Accelerations on the  
Animal Organism

PERIODICAL: Voenno-meditsinskiy zhurnal, 1960, No. 4, p. 90

TEXT: The authors report on experiments carried out on dogs. During six minutes the animals were exposed to a centrifugal acceleration acting in the direction chest - back. Acceleration was varied between 2 - 10 g, and its increase between 0.1 - 0.8 g/sec. The variation of acceleration took place in several cycles with steady increase and rapid decrease. Intervals in between were 15 - 18 sec long. The animals were fairly quiet. At the beginning of the rotation of the centrifuge, an orientation reaction with motor excitation occurred. Different reactions were observed with increasing acceleration. Some animals remained quiet, while others did not. Up to a certain degree of acceleration the animals were able to move their heads and bodies. At a higher

Card 1/2

KOTOVSKAYA, A.R., kand.med.nauk

Unloading and weightlessness. Zdorov'e 7 no.10:6-7 0 '61,  
(WEIGHTLESSNESS) (ASTRONAUTICS) (MIRA 14:10)

S/865/62/002/000/025/042  
D405/D301

AUTHORS: Kotovskaya, A.R., Lobashkov, S.I., Simpura, S.F.,  
Suvorov, P.M. and Khlebnikov, G.F.

TITLE: Effect of prolonged transverse accelerations on  
human organism

SOURCE: Problemy kosmicheskoy biologii. v. 2. Ed. by N. Sisa-  
lyan and V. Yazdovskiy. Moscow, Izd-vo AN SSSR, 1962,  
238-245

TEXT: The investigation had the following main objects:  
to study the effect of prolonged transverse accelerations on the  
principal physiological functions of the organism; to determine the  
limits of endurance of acceleration; the selection of the optimal  
position of the human body during acceleration; the development of  
methods of training and selection for astronauts. Experimental meth-  
od: A group of specially selected healthy persons aged 25-30 was  
subjected to centrifuge tests. The response to accelerations of 7,  
9, 10 and 12 g was investigated. The indicators of the following

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S/865/62/002/000/025/042  
D405/D301

Effect of prolonged ...

basic physiological functions were recorded: electrocardiograms; arterial pressure; pulse and respiration rate; lung ventilation and gas exchange; electroencephalograms; electromyograms of thorax and peritoneal muscles; the duration of the latent period of motor response to light signals; the penetrability of cutaneous capillaries. Results: The subjects could sustain accelerations of 7-12 g for a period of 3 minutes to 30 seconds respectively. The external respiration underwent marked changes; the subjects experienced difficulties in breathing. The number of cardiac contractions increased. The arterial pressure also increased. Some regular changes in the bioelectric activity of the brain were noted; these changes can be divided into 3 main stages. The latent period of response to light signals increased to 0.8-0.9 seconds. The acuity of sight decreased in the majority of subjects by 20-30%. The bioelectric activity of the investigated muscles increased. All these physiological changes reverted to normal 3-5 minutes after the acceleration ceased. An analysis of the obtained material showed that the changes in the physiological functions are within tolerable limits, being determined by the magnitude and duration of the overload. Cutaneous hemorrhages

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Effect of prolonged ...

S/365/62/002/000/025/042  
D405/D501

were observed in most of the subjects after the acceleration ceased. The optimal position of the body was found to be a  $10^{\circ}$  inclination of the back of the chair with respect to the horizontal. The experiments made it possible to divide the subjects into 3 groups with regard to endurance: those with high endurance, satisfactory endurance, and low endurance. The obtained results were used in developing a special training program for the astronauts Yu. A. Gagarin and G.S. Titov. There are 2 figures and 4 tables.

Card 3/3

KOTOVSKAYA, A.R.; YUGANOV, Ye.M.

Effect of prolonged transverse accelerations on the organism of  
animals. Probl.kosm.biol. 1:384-391 '62. (MIRA 15:12)

(ACCELERATION--PHYSIOLOGICAL EFFECT)

(SPACE FLIGHT--PHYSIOLOGICAL EFFECT)

BALAKHOVSKIY, I.S.; GAZENKO, O.G.; GYURDZHIAN, A.A.; GENIN, A.M.;  
KOTOVSKAYA, A.R.; SERYAPIN, A.D.; YAZDOVSKIY, V.I.

Results of investigations in an artificial satellite. Probl.  
kosm.biol. 1:359-370 '62. (MIRA 15:12)  
(SPACE FLIGHT—PHYSIOLOGICAL EFFECT)

S/865/62/001/000/024/033  
EO28/E485

AUTHORS: Kotovskaya, A.R., Yuganov, Yo.M.

TITLE: The effect of prolonged transverse accelerations on animals

SOURCE: Problemy kosmicheskoy biologii. v.1. Ed. by N.M.Sisakyan. Moscow, Izd-vo AN SSSR, 1962. 384-391

TEXT: Fourteen dogs were subjected to accelerations up to 10 g in the direction of the chest to the spine; the duration was 3, 6 or 15 minutes, and 105 runs were carried out in all. The electrocardiogram, respiration and blood pressure were recorded before and during acceleration and for up to 20 minutes afterwards. The animals mostly remained quiet during acceleration but there was a rise in blood pressure to 50 - 80 mm Hg above the initial value value, and a 1.5 to 3-fold rise in respiration rate. These values returned to normal levels 5 to 10 minutes after acceleration was discontinued. The experimental procedure was tolerated well and the animals showed no deviations from normal during subsequent investigation. There are 4 figures.

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KOTOVSKAYA, A. R.

ACCESSION NR: AT4042642

S/0000/63/000/000/0006/0008

AUTHOR: Akulinichev, I. T.; Bayevskiy, R. M.; Belay, V. Ye. Vasil'yev, P. V.; Gazenko, O. G.; Kakurin, L. I.; Kotovskaya, A. R.; Maksimov, D. G.; Mikhaylovskiy, C. P.; Yazdovskiy, V. I.

TITLE: Results of physiological investigations aboard the "Vostok-3" and "Vostok-4" spaceships

SOURCE: Konferentsiya po aviatsionnoy i kosmicheskoy meditsine, 1963. Aviatsonnaya i kosmicheskaya meditsina (Aviation and space medicine); materialy\* konferentsii. Moscow, 1963, 6-8

TOPIC TAGS: biomedical monitoring, electrooculogram, pneumogram/Vostok-3, Vostok-4, EEG, EKG

ABSTRACT: A number of physiological indices were monitored during the tandem spaceflights of Nikolayev and Popovich (Vostok-3 and Vostok-4). New procedures used for the first time on these flights and improvements of existing equipment yielded a great deal of physiological information. Weightless-

Card: 1/34

ACCESSION NR: AT4042642

ness had no noticeable effect on the functional state of the CNS in either cosmonaut, as evaluated on the basis of performance of various tasks. EEG's showed a dominance of comparatively high-amplitude rhythms with a frequency of 5 to 7 cps, similar to those observed in athletes after intense physical exertion, during the first hours of weightlessness. Later a gradual shift toward beta-rhythms with a reduced mean amplitude of EEG biopotentials occurred. Heightened emotional stress in the first hours of flight and before reentry was reflected in decreased electrical resistance of the cortex. Functional stability of the higher involuntary nervous centers is indicated by the maintenance of normal daily variation of cortical resistance--higher at night, lower during the daytime--during the rest of the flights. EOG's (electrooculograms) were used as an index of the functional state of the vestibular apparatus. Asymmetries in oculomotor reaction, which could have indicated disturbances of the vestibular centers, were not observed in either cosmonaut. Vestibular tests not supplemented by EOG's also failed to yield any evidence of vestibular disturbance. Oculomotor activity was also used as an index of general and motor activity. Variations in oculomotor activity had a phase character. At the beginning of the flight Nikolayev, and to

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a lesser degree Popovich, showed an increase of oculomotor activity up to 4 to 6 eye movements per second. Eye movements of an uncoordinated character, of both large and small amplitude, were recorded. On the 6th and 7th orbits eye movement fell off, and later EOG's show periodic increases and decreases in oculomotor activity. Toward the end of the flight a second stable increase in oculomotor activity occurred, but its level was lower than at the beginning of the flight. Cardiac activity was monitored by EKG's (using chest leads). Increased pulse rates (from 98 to 112 for Nikolayev, and from 84 to 136 for Popovich) occurred immediately before launch, with corresponding shortening of the PQ and QT intervals. EKG changes during the powered-flight phase were similar to those observed in ground experiments with centrifuging. The maximum pulse rate during the first minute of flight was 136 for Nikolayev and 132 for Popovich. Normalization of pulse rates to the rates observed 4 hr before launch took place on Nikolayev's 6th and 7th orbit and on Popovich's 3rd to 4th orbit. Normalization of pulse to initial rates took 5 to 10 min during tests. No IKG changes indicating disturbances of automatism, excitability, or conductivity were observed. In flight Popovich registered 3 separate extra

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ACCESSION NR: AT4042642

systoles; this had also occurred during training tests. The character of daily variation of cardiac activity remained unchanged. Pneumographic data revealed no respiratory irregularities. Some increase in respiration rate was noted during the powered-flight phase; this had also been observed during centrifuge tests. No pathological change in physiological functions of either cosmonaut was observed during flight. During the powered-flight phase, functional shifts similar to those observed during centrifuge tests occurred. Definite changes in the functional state of various physiological systems took place during the first hours of orbital flight, as indicated by the inhibition of pulse-rate normalization and the character of EEG and cortical resistance changes. Changes in the character of EEG's during prolonged (3 to 4 days) weightlessness indicate shifts in the interaction of excitation-inhibition processes in the higher levels of the CNS. However, the mental activity and neuro-regulatory functions of the cosmonauts remained at a high level.

ASSOCIATION: none

*Submitted: 27 Sep 63*

Card 4/5



VOLYNKIN, Yu.M.; YAZDOVSKIY, V.I., prof.; GENIN, A.M.; GAZENKO, O.G.; GUROVSKIY, N.N.; YEMEL'YANOV, M.D.; MIKHAYLOVSKIY, G.P.; GORBOV, F.D.; SERYAPIN, A.D.; BAYEVSKIY, R.M.; ALTUKHOV, G.V.; KOPANEV, V.I.; KAS'YAN, I.I.; MYASNIKOV, V.I.; TERENT'YEV, V.G.; BRYANOV, I.I.; FEDOROV, Ye.A.; FOMIN, V.S.; ARUTYUNOV, G.A.; ANTIFOV, V.V.; KOTOVSKAYA, A.R.; KAKURIN, L.I.; TSELIKIN, Ye.Ye.; USHAKOV, A.S.; VOLOVICH, V.G.; SAKSONOV, P.P.; YEGOROV, A.D.; NEUMYVAKIN, I.P.; TALAPIN, V.F.; SISAKYAN, N.M., akademik, red.; KOLPAKOVA, Ye.A., red.izd-va; ASTAF'YEVA, G.A., tekhn.red.

[First group space flight; scientific results of medical and biological studies carried out during the group orbital flight of manned satellites "Vostok-3" and "Vostok-4"]  
 Pervyi gruppovoi kosmicheskii polet; nauchnye rezul'taty mediko-biologicheskikh issledovaniy, provedennykh vo vremya gruppovogo orbital'nogo poleta korablei-sputnikov "Vostok-3" i "Vostok-4." Moskva, Izd-vo "Nauka," 1964. 153 p.  
 (MIRA 17:3)

GAZENKO, O.G.; KAS'YAN, I.I.; KOTOVSKAYA, A.R.; YUGANOV, Ye.M.; YAZDOVSKIY, V.I.

Physiological reactions of animals during their flight in the  
third, fourth and fifth spaceships. Izv. AN SSSR. Ser. biol.  
no.4:497-511 JJ-Ag '64. (MIRA 17:10)

L 14282-66 EWT(1)/FS(v)-3 SCTB DD/RD

ACC NR: AT6003866

SOURCE CODE: UR/2865/65/004/000/0322/0332

AUTHOR: Kotovskaya, A. R.; Vasil'yev, P. V.; Lapin, B. A.; Simpura, S. F.;  
Shakhlamov, V. A.; Artem'yeva, N. S.

36  
341

ORG: none

TITLE: <sup>2,44</sup> Effect of transverse accelerations on the organism of female monkeys

SOURCE: AN SSSR. Otdeleniye biologicheskikh nauk. Problemy kosmicheskoy biologii, v. 4, 1965, 322-332

TOPIC TAGS: cardiovascular system, experiment animal, biologic acceleration effect, biologic respiration, space physiology, histology, biologic reproduction, space biologic experiment

ABSTRACT: Tests were conducted on 16 half-grown monkeys, 5 mandrill and 11 rhesus. Exposure to 12 G centrifugation (varying durations) took place during the following sex cycles: proliferation, secretion, desquamation, and ovulation. Acceleration took place on a centrifuge with an arm radius of 7.25 m in a chest-back position. The behavior of the animals was monitored by TV, and cardiovascular and respiratory activity were used as criteria for the resistance of animals to acceleration. A photograph shows the position of a monkey fixed in the chair of the centrifuge. Table 1 shows the effect of acceleration on cardiovascular and respiratory activity.

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L 14282-66

ACC NR: AT6003866

Table 1. Changes in pulse rate and respiration rate in monkeys exposed to 12 G (mean for 14 animals)

Physiological function	Before	During	After
Pulse rate	152-180	180-230	150-160
Respiration rate	21-30	30-49-54	18-30

The EKG's of animals exposed to acceleration revealed sinus tachycardia, shortened T-P intervals, and ventricular and atrioventricular extrasystole. Cardiac activity in general returned to normal 10-20 min after centrifugation. It was found that the endurance of female monkeys to 12 G ranged from 1 to 4.5 min. A histological analysis of the ovaries of monkeys examined 10 min, 1 hr, 24 hr, and 72 hr after termination of acceleration revealed the following deviations from normal: Proliferation phase: Weakly pronounced depolymerization of acid mucopolysaccharides in the medulla and separate cortical sections of the ovaries, as well as in the uterus. Ovulation: After one, and especially 3 days after the termination of the experiment, all ovarian tissues were found to be full of erythrocytes; The areas around the venules were plasmorrhagic and locally hemorrhagic; Acid mucopolysaccharide depolymerization was intense. Secretory phase: Two monkeys showed premature menstruation and

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ACC NR: AT6003866

hemorrhaging in the endometrium when examined 10 min after termination. This was attributed to the deleterious effects of acceleration. Examination of an animal 24 hr later revealed individual small hemorrhages in the cortical ovarian tissue. Some erythrocytes were observed along the vascular walls. Moderate depolymerization of acid mucopolysaccharides was evident.

Desquamative phase. A macro- and microscopic examination of the ovaries, Fallopian tubes, and uterus revealed the same changes as occurred during the proliferation phase.

It was apparent that acceleration had its greatest deleterious effect during ovulation and its minimum effect during proliferation. The observed deviations probably reflected neuroendocrine processes associated with stress reactions to acceleration. The long-term effects of acceleration were not evident one month after acceleration, demonstrating the ability of the ovaries to regenerate after various injuries. Orig. art. has: 5 figures and 2 tables. [ATD PRESS: 4091-F]

SUB CODE: 06 / SUBM DATE: none / ORIG REF: 004 / OTH REF: 006

OC  
Card 3/3

VOLYNKIN, Yu.M.; ARUTYUNOV, G.A.; ANTIPOV, V.V.; ALTUKHOV, G.V.;  
 BAYEVSKIY, R.M.; BELAY, V.Ye.; BUYANOV, P.V.; BRYANOV, I.I.;  
 VASIL'YEV, P.V.; VOLOVICH, V.G.; GAGARIN, Yu.A.; GENIN, A.M.;  
 GORBOV, F.D.; GORSHKOV, A.I.; GUROVSKIY, N.N.; YESHANOV, N.Kh.;  
 YEGOROV, A.D.; KARPOV, Ye.A.; KOVALEV, V.V.; KOLOSOV, I.A.;  
 KORESHKOV, A.A.; KAS'YAN, I.I.; KOTOVSKAYA, A.R.; FALIBERDIN,  
 G.V.; KOPANEV, V.I.; KUZ'MINOV, A.P.; KAKURIN, L.I.; KUDROVA,  
 R.V.; LEBEDEV, V.I.; LEBEDEV, A.A.; LOBZIN, P.P.; MAKSIMOV,  
 D.G.; MYASNIKOV, V.I.; MALYSHKIN, Ye.G.; NEUMYVAKIN, I.P.;  
 ONISHCHENKO, V.F.; POPOV, I.G.; PORUCHIKOV, Ye.P.; SIL'VESTROV,  
 M.M.; SERYAPIN, A.D.; SAKSONOV, P.P.; TERENT'YEV, V.G.; USHAKOV,  
 A.S.; UDALOV, Yu.F.; FOMIN, V.S.; FOMIN, A.G.; KHLEBNIKOV, G.F.;  
 YUGANOV, Ye.M.; YAZDOVSKIY, V.I.; KRICHAGIN, V.I.; AKULINICHEV,  
 I.T.; SAVINICH, F.K.; STMPURA, S.F.; VOSKRESENSKIY, O.G.;  
 GAZENKO, O.G., SISAKYAN, N.M., akademik, red.

[Second group space flight and some results of the Soviet  
 astronauts' flights on "Vostok" ships; scientific results of  
 medical and biological research conducted during the second  
 group space flight] Vtoroi gruppovoi kosmicheskii polet i neko-  
 torye itogi poletov sovetskikh kosmonavtov na korabliakh  
 "Vostok"; nauchnye rezul'taty medikobiologicheskikh issledovaniy,  
 provedennykh vo vremia vtorogo gruppovogo kosmicheskogo poleta.  
 Moskva, Nauka, 1965. 277 p. (MIRA 18:6)

I 14283-66 EWT(1)/FS(v)-3 SCTB DD/RD

ACC NR: AT6003867

SOURCE CODE: UR/2865/65/004/000/0333/0342

AUTHOR: Kotovskaya, A. B.; Kakurin, L. I.; Konnova, N. I.; Simpura, S. F.;  
Grishina, I. S.

ORG: none

TITLE: Effect of prolonged hypokinesia on human resistance to accelerations

SOURCE: AN SSSR. Otdeleniye biologicheskikh nauk. Problemy kosmicheskoy biologii,  
v. 4, 1965, 333-342

TOPIC TAGS: hypokinesia, acceleration, human physiology, cardiovascular system,  
space chamber test, space physiology, man, biologic acceleration effect

ABSTRACT: The effects of various durations of hypokinesia on the resistance of 5  
male subjects to centrifugation were studied. The duration of force was  
chest-spine in a semi-prone position (25° from horizontal). Each subject  
was given a 30—40-sec 4-G trial run followed by two 7—8-G runs. The  
same procedure was followed after hypokinesia. The duration of hypo-  
kinesia was 3 days for 2 men and 20 days for 3 men.

The basic indices of human resistance to acceleration after hypokinesia  
were changes in maximum endurance time and the degree of changes in  
basic physiological reactions. Subjective illusions were also considered.  
Some results of the tests are shown in Tables 1-3.

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L 11283-66

ACC NR, AT6003867

Table 1. Changes in some human physiological reactions to 7-G transverse accelerations before and after 3 days of hypokinesia (mean)

Indices of physiological functions	Original value	Subject A		Original value	Subject B	
		Before hypokinesia	After hypokinesia		Before hypokinesia	After hypokinesia
Pulse rate/min	80	132	140	89	130	141
Resp. rate/min	14	27	29	16	17	22
Lung ventilation, liters/min	7.7	13.4	14.5	6.5	13.0	17.0
O <sub>2</sub> consumption, cm <sup>3</sup> /min	330	375	500	260	360	450
Latent period of motor reaction response, sec	0.5 0.43	0.58 0.73	0.45-0.82	0.48 0.67	0.74	0.94-0.76
Visual acuity	1.0	0.5	0.9	0.9	0.6	0.6

In general, 3-day hypokinesia did not noticeably alter physiological reactions to 7-G centrifugation; the duration of endurance was 4 min. The reaction of subjects to acceleration following a 20-day period of hypokinesia is shown in Tables 2 and 3.

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L 14283-66

ACC NR: AT6003867

Table 2. Change in endurance time to 7-G centrifugation after 20 days of hypokinesia

Subject	Maximum endurance time	
	Before hypokinesia	After hypokinesia
A	4 min 46 sec	4 min 50 sec
B	4 min 30 sec	4 sec
C	5 min	6 sec

Table 3. Change in visual acuity during 7-G centrifugation before and after 20 days of hypokinesia

Subject	Original value	Visual acuity during centrifugation	
		Before hypokinesia	After hypokinesia
A	1.0	0.7	0.4
B	1.0	0.8	Blacked out
C	0.9	0.7	Blacked out

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L 11283-66

ACC NR: AT6003867

After a 20-day period of hypokinesia, subjects were pale, irritable, nervous, and tense, although they were able to withstand 4 G for 30 sec without difficulty. It took longer 5—10 min.) for cardiovascular and respiratory indices to return to normal following 20 days of hypokinesia and 7-G runs than during control runs (1—3 min). Hypokinesia did not alter motor reactions or peripheral blood indices in response to centrifugation.

Petechiae were more commonly encountered and more pronounced due to acceleration after 20 days of hypokinesia. These hemorrhagic syndromes persisted for 2—3 days after centrifugation. In conjunction with these effects, there was a tendency for small vessels to become more brittle after bedrest (positive endotrelial syndrome). In general, it was observed that a 20-day period of hypokinesia lowered human endurance to acceleration, whereas a 3-day period did not have this effect. The individual response to the experiment was pronounced (see Tables 2 and 3). It was concluded that prolonged restriction of motor activity and decreased hydrostatic pressure of the blood are the main pathogenic factors determining lowered human tolerance to acceleration. Orig. art. has: 5 figures and 3 tables. [ATD PRESS: 4091-F]

SUB CODE: 06 / SUBM DATE: none / ORIG REF: 004 / OTH REF: 006

Card 4/4

L 29437-66 EWT(1) SCTB DD/GD

ACC NR: AT6012902

SOURCE CODE: UR/0000/65/000/000/0241/0244

AUTHOR: Kakurin, L.I.; Kotovskaya, A.R.; Filosofov, V.K.; Chekhonadskiy, N.A.; Chichkin, V.A. 27  
B+1

ORG: none

TITLE: The influence of G-force and hypodynamia on the reaction of the operator

SOURCE: Sistema chelovek i avtomat (Man-automaton systems). Moscow, Izd-vo Nauka, 1965, 241-244

TOPIC TAGS: biologic gravity effect, hypodynamia, human physiology

ABSTRACT: Of special interest in the investigation of semiautomatic control systems is the question of the nature of the influence of such factors as G-force, weightlessness, hypodynamia (restricted movements), etc., on the reaction of the operator. The authors performed an investigation in which the input device of the man-operator was the visual analyzer, and the output device the motion of the hand (finger). The visual analyzer is a highly perfected organ and is characterized by a high resolution factor and relatively high reliability. For an operator under normal conditions, the mathematic expectancy of the delay time in the recognition of light signals is 0.20 sec; furthermore, as established by I. Ye. Tsibulevskiy (Zapazdyvaniye operatora pri obrabotke zritel'nykh signalov. - AIT, 1962, 33, no. 11), delay depends on the age of the operator (the correlation between delay and the operator's age is 0.42). The present article is devoted to the study of the influence of G-force and hypodynamia on the reaction

Card 1/2

L 29437-66

ACC NR: AT6012902

APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R000825420003-

of the operator while the operator is in the process of recognizing single, random visual signals. On the basis of data analysis, the authors conclude that when the operator is subjected to G-force his reaction time to a light signal increases. An analytical form of the relationship, which takes into account the relative location of the light indicator on the signal panel, may be approximately described by the empirical formula

$$\tau_1 = 0,21 (1 + \beta) + (0,01 + 0,5 \beta) n,$$

where  $\beta$  is the coefficient of the relative location of the light indicators on the signal panel, and  $n$  is the G-force. The influence of hypodynamia (for a specific group) is also manifested in an increased reaction time. Orig. art. has: 2 formulas, 1 table, and 3 figures. [08]

SUB CODE: 06/ SUBM DATE: 2Aug65/ ORIG REF: 002 / ATD PRESS: 5009

Card 2/2

ACC NR: AT7011653

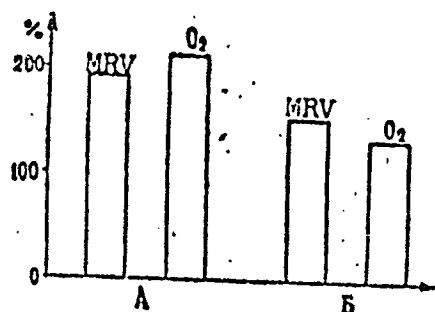


FIGURE 1.

Mean data on changes in per minute respiratory volume (L/min) and O<sub>2</sub> consumption (ml/min) during deceleration after exposure to 12 G for 1 min (3). A - Single exposure; B - Multiple exposure.

From these experiments, the author concluded that +Gx accelerations resulted in multiple shifts including hypoxia, exposure stress, and those caused by the physical displacement of organs. A leading role in acceleration effects was played by circulatory and hypoxic hypoxia. Multiple exposure to acceleration resulted in adaptation reactions which could be observed in respiratory, metabolic, hematological, and biochemical indices. Great-  
Card 4/5

ACC NR: AT7011653

est injury to organs and tissues was sustained at 8 G for 3 min as opposed to 12 G for 1 min. Pulmonary pathology intensified with an increase in acceleration magnitude. Thus, the trends apparent to the author before experimentation were substantiated in that both adaptive and cumulative (most evident in lungs) effects were noted. Kctovskaya therefore felt that it was of utmost importance to establish optimal acceleration exposure conditions, their magnitude, duration, and repetition frequency.

Orig. art. has: 1 figure and 4 tables. [ATD PRESS: 5098-F]

SUB CODE: 06 / SUBM DATE: none / ORIG REF: 028 / OTH REF: 010

S/191/62/000/005/007/012  
B110/B101

15-8/60

AUTHORS: Matsyuk, L. M., Kolobkov, Yu. M., Kotovshchikova, O. A.,  
Grishelevich, V. A.

TITLE: Welding of fluoroplast films

PERIODICAL: Plasticheskiye massy, no. 5, 1962, 23-29

TEXT: Welding investigations were carried out on 200-300  $\mu$  thick films of: (1) polytetrafluoro ethylene (ftoroplast-4), (2) polytrifluoro chloro ethylene (ftoroplast-3) and (3) various fluorine containing copolymers (ftorlon). The MCT-1 (MSP-1) and MCT-2 (MSP-2) machines with nichrome bands 0.1 mm thick and 2 mm wide were used. Amperage was 8-15 a, temperature of the heating element 150-400°C, pressure 0.15-2 kgf/cm<sup>2</sup> and the working length of the heating element 390 mm. The following data were determined: (1) shear, (2) tear at monoaxial load, (3) strength of the "T" welded joint, (4) specific strength  $\sigma$  and (5) relative elongation. A tensile-testing machine with thermostat was used for this purpose.

(1) Results of the investigation of welded, non-oriented 60,100 and 200  $\mu$  thick polytetrafluoro ethylene films (TJM 549-56 (TUM 549-56)): Heating

Card 1/3

Welding of fluoroplast films

S/191/62/000/005/007/012  
B110/B101

at 360-380°C for 3-4 min is required for the welding. 13.5 a are necessary for 200  $\mu$  and less for thinner films. Pressures are 0.2-0.5 kgf/cm<sup>2</sup>. When cooled quickly, the welding seam was more transparent than the basic material. This proves a high content of amorphous phase, since the links of the macromolecules cannot crystallize completely during quick cooling. It is characteristic for fluoroplast-4 films that the tear strength of the weld increases with an increase of the amorphous phase. 70-75% of the strength of the basic material was the best tearing strength for 200  $\mu$ , and slightly more for 100 and 60  $\mu$ . In the light of these results, a stationary welding installation with two superimposed welding heads was developed for the continuous welding of fluoroplast films. Two endless belts carry the material to the strip heaters 25 cm long and then to the cooling device. Cooling and heating was done under pressure. The maximum heater surface temperature was 500°C, welding seam 5 mm, rate 0.08-0.9 m/min. (2) Investigation of welded polytrifluoro chloro ethylene films showed low strength due to the high crystallization rate of the polymer. (3) Investigation of welded 60-120  $\mu$  thick fluorlon films with high degree of crystallization and high density of the amorphous phase showed that, without layer, maximum strength was obtained at 260-300°C and

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L 45466-65 BPF(c)/BWO(j)/BWA(h)/BWP(j)/BWT(m)/T/EWA(L) Pc-4/Pr-4/Tab RM

ACCESSION NR: AP5009318

S/0191/65/000/004/0036/0038

AUTHORS: Malikhova, N. A.; Kosova, Z. P.; Kotovskikh, O. A.; Reytlinger, S. A.

TITLE: The effect of aging and surface treatment upon the weldability of polyethylene films

SOURCE: Plasticheskiye massy, no. 4, 1965, 36-38

TOPIC TAGS: polymer property, polymer film, polyethylene, weld, weld shear strength

ABSTRACT: The effects of oxidation processes occurring in polyethylene under solar radiation, raised temperature, gamma radiation, and with surface treatment by oxidizing substances were studied. The purpose of the investigations was to determine the effect of these factors upon the weldability of polyethylene films. The films were prepared by an extrusion process and welded using the NIAT device reported by Yu. M. Kolobkov, O. A. Kotovskikh, and L. N. Matsyuk (Sb. "Primeneniye polymernykh materialov v mashinostroyeni", Mashgis, 1962, 269). The effect of solar radiation upon the films is shown in Fig. 1 on the Enclosure. The authors recommend storing the films in a dark place prior to exposing them to solar radiation in order to prevent premature structural changes from incident radiation. The strength of welded seams exposed to gamma radiation, high temperatures, and

Card 1/1

L 45166-65

ACCESSION NR: AP5G09318

oxidizing agents is shown in Figs. 2, 3, and 4 on the Enclosure. A Co<sup>60</sup> source was used to produce gamma rays. The heat-treated films were held at 1000 for varying lengths of time. The oxidizing agents were chromic acid, chlorine, ozone, and nitric acid. A small electrical discharge was also used in the oxidation tests. It was noted that the formation of an oxidized polyethylene layer nearly always prohibits the formation of a weld. Orig. art. has 4 figures.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 02

SUB CODE: MI

NO REF SOV: 007

OTHER: 004

Card 2/4



MATSYUK, L.N.; BOGDASHEVSKIY, A.V.; ZHAROVA, L.K.; KOLOEKOY,  
Yu.M.; KOTOVSHCHIKOVA, O.A.; VOLKOV, R.A., inzh.,  
retsenzent

Welding of polymer films] Svarka polimernykh plenok.  
Moskva, Mashinostroenie, 1965. 76 p. (MIRA 18:5)

EEZINGER, E.N.; MOLCHANOV, M.I.; KOTOVSKAYA, A.P.; SISAKYAN, N.M., akademik

Isolation and characteristics of lipoproteins from bean chloroplasts.  
Dokl. AN SSSR 151 no.3:722-724 J1 '63. (MIRA 16:9)  
(Lipoproteins) (Chromatophores)

POMOSOV, A.V. KOTOVSKAYA, N.L.

Dispersity of chemically reduced powdered metals depending  
on the potential of the reducing agent. Elektrokhiimiia 1 no.9:1103-  
1106 S '65. (MIRA 18:10)

1. Ural'skiy politekhnicheskiiy institut imeni S.M. Kirova.

KARNAYEV, N.A.; LEVIN, A.I.; KOTOVSKAYA, N.L.

Photoelectrocolorimetric determination of trivalent chromium  
in industrial solutions. Zav.lab. 28 no.5:547-548 '62.  
(MIRA 15:6)

1. Ural'skiy politekhnicheskiy institut imeni S.M.Kirova.  
(Chromium--Analysis) (Colorimetry)